

Applicants have amended the paragraph starting on page 30, line 5 solely to correct the spelling of "deposit."

Applicants have amended the paragraph starting on page 36, line 26 solely to correct the spelling of "introduced."

Pursuant to 37 C.F.R. § 1.825(a), applicants have amended the specification by submitting substitute Sequence Listing pages 38-45. Also filed concurrently herewith is a statement under 37 C.F.R. § 1.821(e) to authorize the use of the computer readable form submitted in parent application U.S. Application No. 08/737,752 ("the '752 application") on October 13, 1998, in this application. Applicants submit herewith a statement verifying that the attached substitute Sequence Listing and the last-filed computer readable form submission in the '752 application (submitted October 13, 1998) are the same and do not include new matter. Applicants request that the Patent Office use the last-filed computer readable form submission of the '752 application in the present application.

#### The Claims

Applicants have canceled claims 1, 3-7, and 9-18 without prejudice.

Applicants have amended claim 2 to improve its form and also to include the step of verifying that the protein expressed from the genomic or cDNA molecule has amylosucrase activity. Support for amended claim 2 may be found *inter alia*, at page 5, lines 11-24, at page 7, line 28 to page 8, line 2, and at page 9, lines 1-21.

Applicants have added claim 22 directed to a method of isolating a DNA molecule coding for a protein having the amylosucrase activity. Applicants have also added claim 23 directed to a method of determining whether a nucleic acid molecule encodes a

protein having amylosucrase activity. Support for claims 22 and 23 may be found, *inter alia*, at page 5, lines 11-24, at page 7, line 28 to page 8, line 2, and at page 9, lines 1-21.

Applicants have added claims 24-27 directed toward host cells and microorganisms comprising the DNA molecule according to claim 2. Support for claims 24-27 may be found, *inter alia*, at page 9, lines 23-32 and at page 10, lines 32-34.

Applicants have added claims 28-30 directed to transgenic plants comprising the DNA molecule according to claim 2. Support for claims 28-30 may be found, *inter alia*, at page 15, lines 24-35.

Applicants have added claims 31 and 32 directed toward vectors comprising the DNA molecule according to claim 2. Support for claims 31 and 32 may be found, *inter alia*, at page 10, lines 1-31.

Applicants have added claims 33 and 34 depending therefrom directed to a process for the production of linear  $\alpha$ -1,4 glucans, fructose and/or fructose syrup. Support for these claims may be found, *inter alia*, at page 21, line 22 to page 28, line 14.

Applicants have added claims 35-39 directed to processes for the production of linear  $\alpha$ -1,4 glucans and the linear  $\alpha$ -1,4 glucans obtainable by the processes. Support for these claims can be found, *inter alia*, at page 12, line 37 to page 13, line 11; at page 14, lines 1-35; page 16, lines 10-16

Applicants have added claims 40 and 41 depending therefrom directed to a process for the production of linear  $\alpha$ -1,4 glucans, fructose and/or fructose syrup in vitro. Support for these claims may be found, *inter alia*, at page 24, line 14 to page 26, line 18 and at page 28, line 14 to page 29, line 25.

Applicants have added claims 42 and 43 directed to proteins having the activity of an amylosucrase. Support for these claims may be found, *inter alia*, at page 7, lines 12-27;


at page 30, lines 5-8; at page 31, lines 3-13; at page 32, line 14 to page 35, line 22 (Examples 3 and 4); and in Figure 2.

Applicants have added claims 44 and 45 directed to fusion proteins comprising a protein having the activity of an amylosucrase. Support for these claims may be found, inter alia, at page 24, line 32 to page 25, line 13; at page 30, lines 5-8; and at page 39.

After entry of the amendments and added claims, claims 2, 8 and 19-45 are pending in the application.

No new matter is introduced. Entry of the amendments is requested.

Respectfully submitted,



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Jim F. Haley (Reg. No. 27,794)  
Attorney for Applicants  
Elinor K. Shin (Reg. No. 43,117)  
R. Minako Pazdera (Reg. No. 46,984)  
Agents for Applicants  
c/o Fish & Neave (Customer No. 1473)  
1251 Avenue of the Americas  
New York, New York 10020-1104  
Tel.: (212) 596-9000  
Fax.: (212) 596-9090

## Appendix of Amendments

### IN THE SPECIFICATION

The paragraph starting on page 30, line 5:

The plasmid pNB2 of the invention was deposited at Deutsche Sammlung von Mikroorganismen (DSM), Braunschweig, Germany, on May 6, 1994 according to the provisions of the Budapest Treaty under [deposited] deposit no. DSM 9196.

The paragraph starting on page 36, line 26:

The resulting fragment contains the coding region for amylosucrase except for the nucleotides coding for the 16 N-terminal amino acids. These amino acids comprise the sequences that are necessary for the secretion of the enzyme from the cell. Furthermore, this PCR fragment contains 88 bp of the 3' untranslated region. By way of the primers used NcoI restriction sites were [introduced] introduced into both ends of the fragment.

### IN THE CLAIMS

2. A DNA [sequence] molecule coding for a protein having the enzymatic activity of an amylosucrase, obtainable by a process comprising the following steps:

(a) preparing a genomic or a cDNA library [on the basis of the genomic DNA or the mRNA of cells of an organism];

- (b) transforming a suitable host cell with the library constructed according to (a);
- (c) subjecting the transformed cells to iodine vapor in the presence of sucrose;
- (d) identifying the cells that are stained blue;
- (e) isolating and cultivating the cells identified in step (d); [and]
- (f) isolating the genomic DNA insert or the cDNA insert from the transformed cell[.] ; and
- (g) verifying that the protein encoded by the isolated genomic or cDNA molecule has amylosucrase activity.